CLAIMS

1. A projection display apparatus comprising:

a first light generating instrument which includes a light source utilizing discharge or filament energization and thereby generates first light;

a second light generating instrument which includes a solid state light source and thereby generates second light;

a light modulation element which modulates the first light or the second light;

a light guiding instrument which switches between guiding the first light and the second light to the light modulation element; and

a projection instrument which projects the light modulated by the light modulation element.

2. The projection display apparatus according to claim 1, further comprising:

a control instrument which controls at least operation of the light guiding instrument, and wherein:

the control instrument controls the light guiding instrument to guide the second light to the light modulation element and further controls the light guiding instrument after a predetermined time to guided the first light to the light modulation element.

3. The projection display apparatus according to claim 2, wherein:

the control instrument controls the first light generating instrument and the second light generating instrument so that

the second light generating instrument generates the second light while the light guiding instrument is guiding the second light to the light modulation element, and

the first light generating instrument generates the first light while the light guiding instrument is guiding the first light to the light modulation element.

4. The projection display apparatus according to claim 3, wherein:

the control instrument includes a light volume measuring instrument which at least measures a light volume of the first light generating instrument, and controls the light guiding instrument to guide the first light to the light modulation element at the time as the predetermined time, when the light volume measured by the light volume measuring instrument becomes equal to or more than a predetermined value.

5. The projection display apparatus according to claim 1, further comprising:

collection optics for collecting the first light or the second light on the light modulation element, and wherein:

the light guiding instrument selectively guides the first light or the second light to the collection optics and thereby guides the first light or the second light selectively to the light modulation element.

6. The projection display apparatus according to claim 5, wherein:

an optical axis of the first light generated by the first light generating instrument between the first light generating instrument and the collection optics is substantially on a straight line; and

the optical axis of the second light generated by the second light generating instrument between the second light generating instrument and the collection optics is bent via the light guiding instrument.

7. The projection display apparatus according to claim 5, wherein:

the optical axis of the second light generated by the second light generating instrument between the second light generating instrument and the collection optics is substantially on a straight line; and

the optical axis of the first light generated by the first light generating instrument between the first light

generating instrument and the collection optics is bent via the light guiding instrument.

8. The projection display apparatus according to claim 3, wherein:

the first light generating instrument is driven by a first power supply based on supply of power from outside;

the second generating instrument is driven by a second power supply which is a built-in power supply;

the control instrument monitors a status of the first power supply and the second power supply;

the control instrument controls the light guiding instrument to guide the second light to the light modulation element irrespective of the state of the first power supply and the second power supply, and exerts control, on detecting that at least the first power supply is supplied with the power from outside, to operate the second light generating instrument and then the first light generating instrument.

9. The projection display apparatus according to claim 1, in which the second light generating instrument is a light-emitting diode or a laser diode.

10. The projection display apparatus according to claim 1, in which the first light generating instrument is a lamp which emits light by arc discharge.

11. The projection display apparatus according to claim 1, in which the light guiding instrument includes a mirror surface located between the optical axis of the first light and the optical axis of the second light by rotation or parallel movement.

12. An image display method using:

a first light generating instrument which includes a light source utilizing discharge or filament energization and thereby generates first light;

a second light generating instrument which includes a solid state light source and thereby generates second light;

a light modulation element which modulates the first light or the second light; and

a projection instrument which projects the light modulated by the light modulation element, and wherein:

the method includes a light guiding step of switching between guiding the first light and the second light to the light modulation element; and

the light guiding step guides the second light to the light modulation element and then guides the first light to the light modulation element.

13. A program for causing a computer to function as a control instrument which controls at least operation of

the light guiding instrument of the projection display apparatus according to claim 2.

14. A recording medium having the program according to claim 13 recorded thereon and processable by the computer.